1. (Amended) A method for modifying the carbohydrate composition of a plant or plant organ [characterized by the growing of a] , wherein said method comprises growing a stably transformed transgenic plant containing [an expression cassette which contains a DNA sequence encoding a (primary) enzyme of interest capable of degrading a plant polysaccharide, under conditions conducive whereby said enzyme-encoding DNA sequence is expressed and the carbohydrate composition of said plant or plant organ is modified, with the proviso that if said plant or plant organ is potato, the DNA sequence encoding said (primary) enzyme of interest originates from a microbial source] a recombinant expression construct encoding a microbial glucanase under conditions wherein said glucanase-encoding construct is expressed and the carbohydrate composition of said plant or plant organ is modified.

Please cancel claims 2-18 and add the following new claims:

--19. The method of claim 1, wherein said glucanase is an exo-glucanase.

20. The method of claim 19, wherein said exo-glucanase is an exo-1,3-β-glucanase.

21. The method of claim 19, wherein said exo-glucanase is an exo-1,4-α-D glucanase.

22. The method of ~~claim 21,~~ wherein said exo-1,4-α-D glucanase is an amyloglucosidase.

23. The method of claim 21, wherein said exo-1,4-α-D glucanase is a β-amylase.

24. The method of claim 21, wherein said exo-1,4-α-D glucanase is an α-glucosidase.

25. The method of claim 21, wherein said exo-1,4-α-D glucanase is an exo-amylase.

26. The method of claim 1, wherein said glucanase is an endo-glucanase.

27. The method of claim 26, wherein said endo-glucanase is an endo-1,3-β-glucanase.

28. The method of claim 26, wherein said endo-glucanase is an endo-1,4-β-glucanase.

29. A method for modifying the carbohydrate composition of a plant or plant organ, wherein said method comprises growing a stably transformed, transgenic plant containing a recombinant expression construct encoding a microbial xylanase under conditions wherein said xylanase-encoding construct is expressed and the carbohydrate composition of said plant or plant organ is modified.

30. The method of claim 29, wherein said xylanase is an endo-1,4-β-xylanase.

31. The method of claim 29, wherein said xylanase is an endo-1,3-β-D xylanase.

32. The method of claim 29, wherein said xylanase is a β-D xylosidase.

33. A method for modifying the carbohydrate composition of a plant or plant organ, wherein said method comprises growing a stably transformed, transgenic plant containing a recombinant expression construct encoding a microbial starch debranching enzyme under conditions wherein said starch debranching enzyme-encoding construct is expressed and the carbohydrate composition of said plant or plant organ is modified.

34. The method of claim 33, wherein said starch debranching enzyme is an isoamylase.

35. The method of claim 33, wherein said starch debranching enzyme is a pullulanase.

36. The method of claim 1, wherein said expression cassette contains a regulatory sequence operably linked to and capable of directing tissue-specific expression of said DNA expression construct or vector.

37. The method of claim 29, wherein said expression cassette contains a regulatory sequence operably linked to and capable of directing tissue-specific expression of said DNA expression construct or vector.

38. The method of claim 33, wherein said expression cassette contains a regulatory sequence operably linked to and capable of directing tissue-specific expression of said DNA expression construct or vector.

39. The method of claim 1, wherein said DNA expression cassette or vector encoding the enzyme is fused to a nucleotide sequence encoding a leader sequence that is operably linked to said enzyme, said leader sequence being capable of targeting the enzyme to a cellular compartment or organelle.

40. The method of claim 29, wherein said DNA expression cassette or vector encoding the enzyme is fused to a nucleotide sequence encoding a leader sequence that is operably linked to said enzyme, said leader sequence being capable of targeting the enzyme to a cellular compartment or organelle.

41. The method of claim 33, wherein said DNA expression cassette or vector encoding the enzyme is fused to a nucleotide sequence encoding a leader sequence that is operably linked to said enzyme, said leader sequence being capable of targeting the enzyme to a cellular compartment or organelle.

42. The method of claim 1, wherein said transgenic plant contains at least one expression cassette which contains a nucleotide sequence encoding a second microbial enzyme.

43. The method of claim 29, wherein said transgenic plant contains at least one expression cassette which contains a nucleotide sequence encoding a second microbial enzyme.

44. The method of claim 33, wherein said transgenic plant contains at least one expression cassette which contains a nucleotide sequence encoding a second microbial enzyme.

45. The method of claim 42, wherein the second microbial enzyme is capable of using the degradation products resulting from the action of the first enzyme as a substrate.

46. The method of claim 43, wherein the second microbial enzyme is capable of using the degradation products resulting from the action of the first enzyme as a substrate.

47. The method of claim 44, wherein the second microbial enzyme is capable of using the degradation products resulting from the action of the first enzyme as a substrate.

48. The method of claim 45, wherein the second enzyme is selected from the group consisting of a maltase, an α-dextrinase, an α-1,6-glucosidase, a glucose isomerase and an invertase.

49. The method of claim 46, wherein the second enzyme is selected from the group consisting of a maltase, an α-dextrinase, an α-1,6-glucosidase, a glucose isomerase and an invertase.

50. The method of claim 47, wherein the second enzyme is selected from the group consisting of a maltase, an α-dextrinase, an α-1,6-glucosidase, a glucose isomerase and an invertase.

51. The method of claim 1, further characterized in that said transgenic plant is selected from the group consisting of tomato, potato, corn, cassava, carrot, lettuce, strawberry and tobacco.

52. The method of claim 29, further characterized in that said transgenic plant is selected from the group consisting of tomato, potato, corn, cassava, carrot, lettuce, strawberry and tobacco.

53. The method of claim 33, further characterized in that said transgenic plant is selected from the group consisting of tomato, potato, corn, cassava, carrot, lettuce, strawberry and tobacco.

54. A recombinant DNA expression cassette comprising a regulatory sequence operably linked to a nucleotide sequence encoding a microbial enzyme selected from the group

consisting of glucanase, xylanase and starch debranching enzymes, which regulatory sequence is selected from the group consisting of

a) a regulatory sequence that directs expression of said enzyme-encoding nucleotide sequence at a selected stage of development or maturity of the transgenic plant or plant organ;

b) a regulatory sequence comprising a 35S CaMV promoter; and

c) a regulatory sequence directs tissue-specific expression of said enzyme-encoding nucleotide sequence in a plant.

55. A vector comprising an expression cassette according to claim 54.

56. A stably transformed, transgenic plant, characterized in that said plant contains an expression cassette according to any one of claims 54.

57. A bacterial strain characterized in that said bacterial strain contains a vector according to claim 55.

58. A stably transformed, transgenic plant or plant organ, characterized in that said plant or plant organ contains a modified carbohydrate composition, said plant or plant organ being made by the method of claim 1.

59. A stably transformed, transgenic plant or plant organ, characterized in that said plant or plant organ contains a modified carbohydrate composition, said plant or plant organ being made by the method of claim 29.